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REMARKS

Claims 1-43 were originally presented in the subject application. Claims 18-43 were canceled without prejudice, and claims 44-62 were added in a response dated March 19, 2003. Claims 1, 8, 9, 15, 45, 49, 56, 58 and 59 were amended in a response dated September 19, 2003.

Claims 1 and 45-47 have hereinabove been substantively amended to more particularly point out and distinctly claim the subject invention. Claims 2, 4, 5, 15, 16, 44, 58 and 62 are herein cancelled without prejudice. Claims 3, 6, 8, 10, 17 and 59 have been amended to address dependencies affected by the cancelled claims. Finally, claims 9, 12, 13, 54, 55 and 56 have herein been amended in independent form. No claims have herein been added. Therefore, claims 1, 3, 6-14, 17, 45-57 and 59-61 remain in this case.

The addition of new matter has been scrupulously avoided. Support for the substantive amendments to claims 1 and 45-47 can be found, for example, in the claims prior to the present amendment.

Applicant respectfully requests reconsideration and withdrawal of the various grounds of rejection and objection.

35 U.S.C. §103 Rejection

The Office Action rejected claims 1 and 14-17 under 35 U.S.C. §103, as allegedly obvious over Park (U.S. Patent No. 5,567,742). Applicant respectfully, but most strenuously, traverses this rejection.

Although not specifically part of this rejection, claim 1 has been amended to include limitations previously in dependent claims, against some of which the Office Action cited to Wu et al. (U.S. Patent No. 6,383,425). However, Applicant submits that Wu et al. cannot properly be cited against amended claim 1, since claim 1 now recites polystyrene, and Wu et al. expressly teaches away from polystyrene. Wu et al. refer to polystyrene as "suffer[ing] from low service temperature," "fragile," "lack[ing] chemical resistance," and having "undesirable characteristics." Finally, Wu et al. note that "the food service and packaging arts have long

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sought alternative materials” to polystyrene. See Wu et al. at column 1, lines 25-32. Thus, Applicant submits that Wu et al. cannot properly be cited against claim 1.

Amended claim 1 also recites, for example, reducing friction within at least a portion of the exiting channel by controlling a temperature of the second portion thereof. Against this aspect of amended claim 1, previously in claim 5, the Office Action refers back to the first Office Action, having a mailing date of December 20, 2002. Against this aspect of prior claim 5, the first Office Action cited to Wu et al. at column 13, line 8. Applicant has already noted that Wu et al. cannot properly be cited against claim 1, due to its teaching away from polystyrene. However, even ignoring that, the cited section of Wu et al. merely teaches that the die is maintained at a temperature about the same as the barrel, and the finishing roll stack *outside* the die exit is kept at a lower temperature. The cited section of Wu et al. includes no teaching or suggestion of controlling a temperature in a portion of the exiting channel, much less doing so to reduce friction.

Amended claim 1 further recites, as another example, extruded polystyrene sheet having a thickness of between about 0.75 mm and about 6 mm. This aspect was previously in claim 16, against which the Office Action cited to Park at column 10, lines 35-57, alleging that it states “a foam free from corrugation may be produced as long as extrusion rates are sufficient.” While Applicant could find no express statement to this effect in the cited section, even if Applicant assumed that it did for the sake of argument, Applicant cannot discern how such a statement could possibly teach or suggest a particular foam sheet thickness (or any other specific measurement). In fact, it does not so teach or suggest.

Applicant submits that none of the other secondary references remedies the shortcomings noted above. Therefore, Applicant submits that amended claim 1 cannot be rendered obvious over Park, or Park in combination with any or all of the secondary references.

The Office Action also rejected claims 45-47 and 57 as allegedly obvious over Wu et al.

Amended claim 45 recites, for example, polystyrene foam. In contrast, Wu et al. teaches polypropylene foam, and actually teaches away from polystyrene foam, referring to it as “suffer[ing] from low service temperature,” “fragile,” “lack[ing] chemical resistance,” and

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having "undesirable characteristics." Finally, Wu et al. notes that "the food service and packaging arts have long sought alternative materials" to polystyrene. See Wu et al. at column 1, lines 25-32. Therefore, Applicant submits that Wu et al. cannot properly be cited against claim 45.

Amended claim 45 also recites, as another example, a polystyrene foam density of less than about 0.15 g/cc. Even ignoring Wu et al. teaching away from polystyrene, Wu et al. teaches foam with a density in the range of 0.4 to 0.8 g/cc, which is well above and not even close to the range claimed in the present application. See Wu et al. at column 17, lines 21-24.

Further, amended claim 45 recites, as still another example, controlling pre-foaming in the second portion of the exiting channel. The Office Action generally refers to prior Office Actions for specifics regarding the rejection of claim 45 over Wu et al. Upon review of the prior Office Actions, Applicant discovered that only the Office Action with a mailing date of December 20, 2002 actually applied Wu et al. against claim 45. However, this limitation was not present in claim 45 at that time, and has never expressly been addressed by the Examiner.

In response to the December 20, 2002, Applicant amended claim 45 to add a step of at least partially thermally isolating the first portion of the exiting channel from the second portion. Although the Examiner later took issue with this wording, it is one way to control pre-foaming in the second portion of the exiting channel, which is what is currently recited in claim 45. Claim 8 as filed contained the partially thermally isolating limitation, and the December 20, 2002 Office Action did address that with respect to Wu et al.

The December 20, 2002 Office Action alleged that Wu et al. "suggest the thermal isolation of claim 8 by placing first and second portions at opposite ends of the exit." As an initial matter, it is not at all clear from the cited language in that Office Action what the alleged first and second portions are in Wu et al., since no reference to Wu et al. is given. The only reference to Wu et al. in this context is with regard to alleged temperature control a couple of sentences prior in the Office Action, citing to column 13, line 8 of Wu et al. However, that section merely states that the barrel of the extruder and the die are maintained at about the same temperature, 380° F in this case, and a finishing roll stack located approximately *six inches away from the die exit* is maintained at 130° F. As noted in the present application, it is the

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constraining geometry of the exiting channel where temperature control comes into play. Applicant contends that Wu et al. does not teach or suggest anything with regard to temperature control in the exiting channel. In fact, Wu et al. specifically teaches keeping the constraining portion of the die at or near the melt temperature of the polymer being foamed. See, for example, column 13, line 8 of Wu et al.

Thus, since no other section of Wu et al. has been cited in the present or a past Office Action against controlling pre-foaming in the second portion of the exiting channel, Applicant submits that Wu et al. does not teach or suggest the same.

For all the reasons noted above, Applicant submits that claim 45 cannot be rendered obvious over Wu et al.

Objection to Claims

The Office Action objected to claims 9, 12, 13, 54, 55 and 56 as depending from rejected base claims. However, the Office Action also indicated that these claims would be allowable if amended in independent form, including all of the limitations of the base claim and any intervening claims.

In response, Applicant has so amended claims 9, 12, 13, 54, 55 and 56. Therefore, Applicant submits these claims are now in condition for allowance.

CONCLUSION

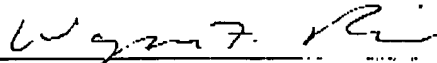
Applicant submits that the dependent claims not specifically addressed herein are allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their additional limitations.

For all the above reasons, Applicant maintains that the claims of the subject application define patentable subject matter and earnestly requests allowance of claims 1, 3, 6-14, 17, 45-57 and 59-61.

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If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicant's undersigned attorney invites the Examiner to telephone him at the number provided.


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